IN THE CLAIMS:

The following listing of claims replaces all prior versions and listings of claims in the present application.

Listing of Claims:

1. (Original)   An embedded controller comprising:

an external input processing means which makes data from either of the input signal measured with the sensor or the input signal received from another embedded controller;

a control operation means which obtains control data based on the control data obtained by at least one of the concerned or another control operation means;

an external output processing means having a plurality of control operation means, which generates the control signal to drive an actuator based on the control data obtained by the concerned control operation means,

a control basis processing means which manages the execution sequence of said external input processing means, said external output processing means, and said control operation means; and

an interface means which manages the handing over of the control data between the concerned control operation means and another control operation means, and an operation executive order to said control operation means according to the request from said control basis processing means;

wherein said interface means is provided every said control operation means.

2. (Original)   An embedded controller according to claim 1, wherein said interface means preserves said control data calculated by said control operation means corresponding to said interface means.

3.   (Original)   An embedded controller according to claim 2, wherein other interface means refers to said control data of said control operation means preserved by said interface means.

4.   (Original)   An embedded controller according to claim 3, wherein said interface means collects said data used when said control operation means corresponding to said interface means calculates referring to said control data preserved by other interface means or preserve or said control data preserved by the concerned interface means.

5.   (Original)   An embedded controller according to claim 4, wherein said interface means specifies said control data to be calculated by said control operation means, and orders the execution of the operation processing by said control operation means, with said data collected by said interface means and used for the operation by said control operation means referred, when said control operation means calculates.

6.   (Currently Amended)   An embedded controller according to claim 1 any one of claims 1 to 5, wherein said interface means preserve the control data which is the calculation result by said control operation means, and wherein only one control data is preserved every control operation means.

7.   (Currently Amended)   An embedded controller according to claim 1 any one of claims 1 to 6, wherein said control operation means are one that the source code of the programming language is generated automatically based on the control model where data referred in the operation and said control data where the specific operation procedure and result are output are described.

8.   (Original)   An embedded controller development tool which generates an interface means for preserving and outputting a control data calculated by the control operation means based on a specific computational procedure, and providing said control data to a plurality of control operation means including said control operation means;

wherein the control operation means is described as a function in the source code of the program, the reference data used for calculation by said control operation is an argument of the function, said control data calculated by said control operation means is the argument of the function which points the return value or the address of said function,

further comprising;

an analyzing means which extracts the specified information from the source code of said control operation means;

an interface generating means which generates said corresponding interface means every control operation means based on an analytical result of said analyzing means.

9.   (Original)   An embedded controller development tool according to claim 8, wherein the source code of said interface means generation means provides the control data declaration for the interface means generation means to allocate the preservation area for said control data onto the embedded controller based on control data name of said control data which is the calculation result of the control operation means extracted by the analyzing means and type information on said control data which is the calculation result.

10.   (Original)   An embedded controller development tool according to claim 8, wherein interface generating means includes the function to read the data which the interface means generation means uses for the source code of the interface means to calculate from the external input processing means and other interface means is provided based on the reference data name of said reference data used to be numerical of said reference data used to calculate of the extraction with the control operation means analysis tool and to calculate.

11.   (Original)   An embedded controller development tool according to claim 8, wherein the interface means generation means provides the function to demand the update of said control data where said control basis processing means etc. are calculation results of the control operation means or the macroinstruction to the source code of the interface means based on said control data name of a said control data to which is the calculation result of the control operation means extracted by the control operation means analysis tool.

12.   (Original)   An embedded controller development tool according to claim 8, wherein the interface means generation means provides the function to refer said control data where said control basis processing means etc. are calculation results of the control operation means or the macroinstruction to the source code of the interface means based on said control data name of a said control data which is the calculation result of the control operation means extracted by the control operation means analysis tool.

13.   (Currently Amended)   An embedded controller development tool according to claim 8 ~~any one of according to claims 8 to 12~~, wherein said control

operation means is the one that the source code of the programming language is generated automatically based on the vehicle control model where the data which outputs the specific operation procedure and operation result and the data referred for the operation are described.

14.   (Original)   An embedded controller developed by using a development tool according to <u>claim 8</u> ~~any one of claims 8 to 13~~.

15.   (Original)   A controller for the vehicle control which output a control signal to control the internal combustion engine or transmission gear based on the instruction of a driver and the state of the engine measured by a sensor or an input signal from the outside received from other vehicle control controllers, comprising:

an external input processing means which makes data the input signal from the outside which is measured with sensor or received from other embedded controllers;

a plurality of control operation means which calculates data from data of input signal and the calculation result of other control operation means based on specific computational procedure;

an external output processing means which outputs a control signal to control an internal combustion engine or an transmission gear based on data calculated by control operation means;

a control basis processing means which manages the execution sequence of said external input processing means, said external output processing means, and said control operation means; and

an interface means which manages the handing over to said control operation means and the execution order from said control basis means to said control operation means in each said control operation means.

16.   (Original)   A controller for a vehicle control according to claim 15, wherein said control operation means is the one that the source code of the programming language is generated automatically based on the vehicle control model where the data which outputs the specific operation procedure and operation result and the data referred for the operation are described.

17.   (Currently Amended)   A controller development tool, wherein the controller for vehicle control is developed by the controller development tool according to claim 8 ~~any one of claims 8 to 13~~.